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POSSIBLE LOGISTICAL IMPLICATIONS OF "FROM THE SEA"

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Signature: Charles G. Deitchman

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Utilizing the Navy white paper "From the Sea" as the basis, Navy Logistics and the Joint Logistics Over the Sea System were examined to highlight logistical difficulties in carrying out littoral warfare as envisioned. Port accessibility to prepositioned shipping in Africa was reviewed to point out the probability of having to offload in stream and the potential difficulties this would impose on the theater commander. Lastly, suggestions were offered that may minimize potential difficulties involved in sustaining forces without the use of a port facility.

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CHAPTER I

INTRODUCTIONS

We don't want to move too far away from the need for forcible entry. . . Saudi Arabia - we were invited in. We were able to make great use of our maritime prepositioning ships and our amphibious capability. It was our amphibious capability, with its forcible entry that tied down several Iraqi divisions along the coast. It was the amphibious capability which was the commander's strategic reserve and a force of decisive capability.

General Al Gray, Former Commandant of the Marine Corps

United States Naval Forces posses tremendous capabilities to carry out the nations national security objectives either independently or as part of a joint force. While Desert Storm was certainly an unqualified success it also provides us an opportunity to examine potential short comings. The lessons we learn from this war should not be focused nearly as much on our successes but on areas where we may have future problems. We can be assured that our potential adversaries are examining them closely in order to exploit our weaknesses.

The Navy's vision of the future, as spelled out in the white paper "From the Sea", clearly depicts forward deployed naval forces prepared to react swiftly through the full spectrum of possible conflict. The purpose of this paper is to

review this vision and to examine the potential impact logistics may play on her ability to successfully carry it out.

The lessons of Desert Storm are reviewed to identify potential problem areas, port accessibility in Africa is examined in order to provide a window in which the scope of future logistics operations may be viewed, a short review of the Joint Logistics over the Shore System examines potential trouble spots if ports are unavailable, and finally some basic solutions are offered for closer examination.

There is significant potential for an operational commander to be restricted in his freedom of action by the necessity to be resupplied without use of port facilities. As a warfighter we often take logistics for granted until we don't have the material necessary to complete our mission.

In this era of declining defense budgets the opportunity to buy solutions to these problems is negligible. We must therefore carefully examine the assets we now possess and try to make better use of them. Frequently this will involve tapping the resources of other services in ways we have not yet explored. We must also examine the assets we discard for other non-traditional uses as we draw down our force structure. The most important current task for the naval services is to structure the force for a world strategically safer, but far

more dangerous and unstable on the regional levels. It is in these unstable regions where forward deployment and rapid reinforcement capabilities remain essential.

CHAPTER II

FROM THE SEA

In today's environment of smaller defense budgets and a corresponding shrinking navy, naval leaders are examining their roles and missions. They are attempting to see into an unclear future in order to determine the proper size and shape of the future navy. With the apparent demise of the Russian bear, for which it had trained and structured itself to fight, the role of Naval forces had to change. The potential for a war at sea against the largest navy in the world had caused the United States to maintain a large standing fleet. While we fortunately never fought the Russians at sea, the navy this threat helped to build, was more than capable of filling its many other roles. The task now is to maintain naval forces capable of meeting our future national security needs. As we build down our force we must strive to increase the relative capability of the smaller force. In other words, to give the taxpayer more bang for his buck.

As we struggled with the declining budgets and force cuts, the navy searched for its role. The "White Paper" From the Sea was issued as a way of articulating the navy's future role and of refocusing the Navy Department from one of blue water

operations and defeating the global threat to forward presence, crisis response, and power projection in regional conflicts. American Naval Forces provide a powerful yet an unobtrusive presence, strategic deterence, control of the sea, extended and continuous on-scene crisis response, power projection, and sea lift. This focus requires the naval forces to concentrate more on the capabilities required in the operating environment of the coastlines of the earth (littoral).[1]

> **"The <u>new</u> direction of the Navy and Marine Corps team, both active and reserve is to provide the nation: Naval expeditionary forces - shaped for joint operations operating forward from the sea - tailored for national needs".[2]**

This emphasis ties the Navy-Marine Corps team more closely than ever and it recognizes since World War II, over 150 wars have been fought, ninety percent of them "small wars in Third World countries". With the current amount of ongoing religious, racial and cultural hatreds surfacing, and the continued economic problems which plague many underdeveloped nations, the relative role of the naval forces will be greater than ever.[3] The Navy and Marine Corps will now respond to crises and provide the initial enabling capability for follow on joint operations. It plans to continue as a Unified Commander's first choice as he executes national policy. The

increased emphasis on naval expeditionary forces provides the CINC with forward deployed forces capable of swift, short notice response to distant crises, structured to build power from the sea, capable of sustained support for extended operation, without the need for transit, overflight, or basing agreements from foreign governments.[4]

Since most conflicts occur within 150 miles of international waters, amphibious forces and carrier battle groups remain key resources for the United States to influence future crises and to respond with force when required. As the number of forward bases become smaller and smaller the primary focus of the Unified Commander will gravitate to special operations, for which Navy carrier battle groups, Navy-Marine amphibious task forces, and prepositioned sealift ships are best suited.[5]

From the sea lists four operational capabilities the Navy-Marine team are required to successfully execute:

- Command, Control, and Surveillance
- Battlespace Dominance
- Power Projection
- Force Sustainment.[6]

It is the area of force sustainment this paper focuses on. Particularly with regard to the ability of the Navy to sustain

a forced entry and the follow-on joint forces campaign. The white paper talks a great deal about the necessity to focus the Navy's resources and doctrine in these areas. The area of logistics or force sustainment is the least glamorous and has the most potential to be overlooked. With the loss of many of our forward bases, and the potential absence of host nation support, forward logistics, prepositioning, sealift and airlift are the keys to force sustainment.

In order for the Naval Forces to succeed in shaping their structure to carry out "From the Sea" missions they must examine these logistical capabilities to determine potential weaknesses and correct them. If we fail to do this we will severely limit the operational commanders ability to plan and conduct his campaign. Logistics sets the campaign's operational limits. The time to arrange logistics support and resolve problems in littoral warfare will likely be short. Adequate logistical support and planning is essential to maintaining the commander's freedom of action.[7]

As the number of ships diminishes, we must continue to emphasize flexibility and examine new missions for each platform. This should not focus on flexibility in strictly traditional naval warfare missions, we must shift to providing the joint commander with assets he can use in multipurpose

roles. The Atlantic Command is already experimenting with deploying a 150-300 Marine Corps special purpose force in each deployable carrier. Navy helicopters will be left behind or transferred to other ships to provide deck space for Marine helos. Such forces are envisioned as supporting a variety of operations: non-combatant evacuations (NEO), humanitarian assistance, disaster relief, hostage rescue, and embassy reinforcement. While this may not be the best use of a carrier it does provide the operational commander with increased flexibility. He may now be able to use an on-station carrier to insert a small number of troops instead of waiting for an amphibious ready group (ARG) or for stateside forces to be flown into the theater. This also demonstrates the seriousness in which the naval forces are approaching their restructuring.

As the navy changes the roles and structure of its combatant fleet it must also examine the role of its combat logistics fleet. It is this force that provides force sustainment, offers the opportunity to add flexibility, and can contribute to any joint logistics requirement. With increased mixing of force packages it may become increasingly likely that a land force will require resupply prior to the arrival and offload of prepositioned ships. The CLF fleet with its versatile helicopter force offers the flexibility to resupply

forces throughout the littoral areas of the world, without the requirements of modern port facilities or airfields. Utilizing the Navy's CLF fleet also offers the added advantage of not requiring a host nation in the immediate area of a crisis to provide the U.S. basing rights.

CHAPTER III

LESSON FROM DESERT SHIELD/STORM

The maritime prepositioning force concept and the value of amphibious operations and expeditionary flexibility was well recognized in the aftermath of Desert Storm. Of ten Gulf War lessons published by the Washington Institute's Strategic Study Group, three related to the need to maintain and support amphibious assault capabilities and sufficient expeditionary forces.[1] The success of the MPS was well recognized. What wasn't as publicly recognized was that host nation support was crucial to the ability of these ships to offload. There was a tremendous infrastructure; a modern port facility (Al Jubail), plenty of water, food, and billeting. The Saudi's even supplied trucks with drivers to deliver the supplies to units in the field.[2] In the absence of such advantages, the United States must have amphibious forces on the scene, or nearby that can secure the area for Army and Air Force combat elements which will certainly be deployed in a prolonged conflict. The amphibious force will act as an enabling force for further joint operations. The logistics implication of this is the Navy must carefully examine its ability to conduct or contribute to the joint logistics effort. The use of Joint

Logistics Over the Shore (JLOTS) will become a reality if modern port facilities are not available. We must be prepared to resupply and reinforce our amphibious forces rapidly, and be prepared to offload our prepositioned ships and fast sealift ships on arrival.

The successful use of preposition shipping during Desert Storm coupled with the lack of U.S. merchant capabilities points to its use with increased frequency. It is a credible force multiplier and a flexible deterrent option, but perhaps the most important lessons were those we didn't have to learn.

> **What we did not learn was how to engage in a combat scenario without any significant preparation time or how to engage in an operation where you did not have a large indigenous infrastructure to depend upon for support. . . Chemical weapons were also not a factor.[3]**

We must be prepared in future campaigns to conduct sustainment operations in a more hostile environment. Current planning should account for the possibility of not having access to a viable port facility, of having to make a forced entry and protecting sustainment operations from a determined enemy. MPF doctrine assumes a benign environment and a secure area. Their offload area provides a lucrative target for enemy air or terrorist activity and must be protected. During Desert

Shield, Arrival and Assembly Areas (AAA) and defensive operations occurred simultaneously, and security in the ports was marginal. The decision to place combat units in Saudi Arabia prior to logistics units created a bottleneck at Al Jabail that took two months to recover from, and impaired operational readiness.[4] Had Saddam Hussein chosen to launch an attack at this moment he would have caught the U.S. unprepared to fight. Equipment required by the soldiers in the desert to repel an Iraqi invasion would have still been sitting at the dock. He could have further complicated our operational situation by sending terrorists or commandos to the port to destroy stockpiled ammunition and equipment or by attacking the port infrastructure.

Future military operations most likely will be conducted in a far different manner than Desert Storm. It is unlikely that we will have the immediate access to modern port facilities and airfields. The likelihood of the U.S. having allies in close proximity to the area of operations (AOR) who will allow us essentially unrestricted use of their facilities is small, and a retreating enemy will certainly attempt to destroy his ports or airfields to prevent their use by our forces. This makes the Navy and Marine amphibious capability essential to enable the operational commander to obtain a

foothold from the sea and sequence the follow on forces necessary to conduct his campaign. It also forces a much closer examination of our ability to offload sustaining supplies and equipment in a hostile environment. The task for the United States is to ensure it maintains the force structure and prepositioned assets required in a world strategically safer but far more unstable on regional levels. We must be prepared to act rapidly with sufficient force to protect our national interests. We should not bank on host nation support and be prepared to take unilateral action if required.

CHAPTER IV

PORT ACCESSIBILITY

A survey conducted by Jane's Defense Weekly concluded there are seventy-three worldwide "flashpoints" that existed at the beginning of 1993. There are twenty-six conflicts raging where two or more countries are at war or where insurrections threaten internationally recognized governments. Additionally, there are twenty-three areas of potential conflict where ethnic rivalries could lead to fighting, and twenty-four more areas where tensions are high. Of the seventy-three troubled areas, eighteen are in Sub-saharan Africa.[1] While not all of these nations may represent national interests the United States is willing to fight for, in view of our recent experience in Somalia, it does represent an area of a relatively high probability for the use of U.S. forces. Because of the likelihood of future U.S. involvement and because of the availability of current data on port capabilities, I have chosen this area to explore the probability of prepositioned shipping having to offload without the use of ports or "in stream".

The determination of port accessibility for prepositioned ships was determined by the ship's ability to enter a port

safely. This was accomplished by examining the depth of the water, the availability of pilots and tugs, and the self sufficiency of the ships to discharge their cargo without assistance from the host nation. A ship essentially must be able to navigate pierside and offload its cargo with onboard cranes and booms, or have side loading warping tugs it has brought with it, before a port was said to be accessible by a particular type of prepositioned ship. The key areas limiting a ship's ability to safely enter port were its length, draft, and maneuverability in confined areas.[2]

Table A depicts the African ports and their accessibility by different classes of ships likely to be utilized by the theater commander to sustain his forces.

Table A[3]

APS PERCENTAGES					
	Ports Excluded	Ports Less Than Half Service	Total	Nations Excluded	Port Full Access
Africa	16	40	56	25	18
MPS PERCENTAGES					
	Ports Excluded	Ports Less Than Half Service	Total	Nations Excluded	Port Full Access
Africa	36	13	49	39	44
FSSX					
	Ports Excluded	Ports Less Nations Excluded			
Africa	73	75			

The data shows clearly there is a high probability prepositioned ships would have to utilize their "in stream" unloading capabilities if U.S. forces are employed in this region. Nearly forty percent of the nations are severely constrained with respect to sealift supportability. Additionally, with the exception of the port of Sudan the entire coast of Africa is inaccessible by Fast support ships.[4]

While this is only one area of the globe, it was used as an example to show the potential for in stream offloading and to indicate that theater commanders must consider using JLOTS for theater logistics sustainment as a distinct possibility under almost any likely contingency scenario. Similarly, if the Navy is going to conduct war in the littoral areas of the world and project power from the sea, she had best be prepared to sustain the forces ashore without the use of port facilities. Even in the relatively calm seas required to offload MPS ships, significant delays are likely. If a Marine Expeditionary Unit is employed, it has only fifteen days of supplies with it. In order to ensure the tactical commander is not hampered because of logistics, prepositioned ships must proceed to an area secured by the Marines, offload in stream (normally 3-5 days), and the supplies distributed to the proper places within the fifteen day window. Given the friction of

combat, the opportunity to fail is great and the Navy and Marines should be examining other means to support the troops ashore both before prepositioned ships are offloaded and while establishing the JLOTS system.

CHAPTER V

JLOTS

In Desert Storm the U.S. shared common interests with most nations in the AOR and the use of their port facilities made sustainment operations relatively easy. In operation El Dorado Canyon the U.S. was unable to obtain even clearance through French airspace. We do not know what conditions will surround the next crisis. Given the wide variance in the ability of ports to handle our shipping in ideal conditions, the possibility of the use of U.S. forces in a forced entry dictates theater commanders be mentally and physically prepared to move material ashore using the JLOTS system. This requirement is highlighted by:

> **. . . from Richards By, South Africa to Djibouti there is only one port on the entire East African littoral (Mombassa, Kenya) in which over 75% of the ship classes have access. From Djibouti to the Suez Canal there is only one more port equally as capable (Port Sudan, Sudan). Similarly in Southwest Asia the distance from Al Aqebal, Jordan to Yanbu, Saudi Arabia (the next available port) is over 400 miles.**[1]

It is recognized that individual prepositioned ships have the capability of off-loading their cargo without the additional requirement of port equipment. However, Lighter

Aboard Ship (LASH) vessels required tugs to move the lighters, unless self propelled lighterage is brought by the LASH vessel. Auxiliary crane ships (TACS) are not forward deployed, but are in the Ready Reserve Force (RRF). These ships are required to offload commercial container ships. The availability of causeway sections, powered causeway sections, and sideloading warping tugs may have to be shipped from the continental U.S. in order for a JLOTS operation to be established. There is only one elevated causeway system (ECLAS) in existence and transporting it to the theater will be a slow and time consuming effort. Army Delong piers can only be moved by ocean towing and there is no load out plan for the ECLAS.[2]

Current planning for future conflicts requires ninety-five percent of material destined to the theater of operations will be transported by sealift. As previously discussed, when host nation facilities are inadequate or not available, JLOTS will be required to move this material from the ships to a logistics area ashore for further distribution. When used in conjunction with an amphibious assault, JLOTS operations are conducted after the assault echelon and the assault follow on echelon of the landing. The JLOTS commander assumes responsibility for JLOTS upon mutual agreement with the commander of the amphibious task force or as directed by the joint force commander.

The JLOTS commander must evaluate potential JLOTS sites and coordinate with the Movement Control Activity the impact of the proposed JLOTS location or theater transportation sites. He must also evaluate the capability of theater transportation assets in sustaining combat operations from the proposed sites. When choosing a site the commander must consider beach gradient, beach trafficability for heavy equipment, required matting, amount of causeway required, normal sea state, depth of water, available anchorages and location of the holding ground. These issues will have to be preplanned because they translate into specific types of equipment the JLOTS commander will need. This equipment will have to be transported into the theater of operations prior to the start of hostilities.

The JLOTS system was demonstrated during exercises JLOTS II in 1984 and 1985. In stream off-loading of the principle components of the JLOTS system and the ships it is to support was accomplished. A full range of supporting beach preparations, cargo launching, and throughput systems were exercised. Given this capability to execute the JLOTS system, primary concerns from the theater logistics perspective include advance warning of the possibility of using JLOTS, priority of movement of the system components, availability of in theater equipment, environmental conditions in which the system must

operate, throughput of the system (can it sustain the force?), and are there any alternatives to using JLOTS or to augmenting it.[3]

There are only three alternatives for a theater commander when establishing a JLOTS operation. He can bring the required equipment into the theater by Fast Support Ships or by airlift, or it can be prepositioned. If JLOTS systems are delayed in arrival, all surge and sustainment supplies transported by sea will be delayed, directly impacting the Theater Commander's phasing of operations.

Airlift of some JLOTS systems is possible but probably impractical because the systems are heavy and large. They would seriously deplete airlift capacity. Additionally, if airlift is used for JLOTS, movement of some other critical air transport material would be delayed.

Prepositioning JLOTS systems is already taking place to a degree. Some components are already on MPS ships. Additional JLOTS equipment could be added, but at a significant cost to the embarked Marine equipment. Critical components not currently embarked should be examined to determine if embarking it in the MPS is worthwhile.

Given that some JLOTS equipment will arrive in theater very early upon the prepositioned ships, the optimal way to

move most of the remainder is aboard the Fast Support Ships. If the equipment is positioned in these ship's ports, or already loaded on them, they could depart to the theater on first notice. Hopefully they will be near the AOR prior to the initiation of any combat. As soon as a JLOTS site is selected and secured, work on the JLOTS system could begin.

The problem with a plan depending on prepositioning, Fast Support Shipping, and possibly some airlift are that TACS are in the RRF and will take considerably more time to arrive. There is only one elevated causeway system and transporting it will be slow and laborious, and the Delong piers can only be towed at approximately 3-5 knots.

Once all of the JLOTS material has arrived in theater, it can be a long process to make them ready for use. During the JLOTS II exercise it took seven days to erect the elevated causeway system after it arrived.[4] It could take even longer if weather is less than optimal. JLOTS is advertised as being operable up to sea state 3 (5 foot seas).[5] In practice use of the JLOTS system has been suspended upon reaching sea state 2 (3 foot seas). Wind speed, state of the tide, and tidal current also had an adverse impact on the rate of transfer operations.

Given the difficulties in transporting the JLOTS system to a theater of operation and the limitations in its use, the theater commander should examine other avenues of supplying the troops ashore and offloading the sustainment material. The JLOTS system is inherently slow and may be required to shut down in moderately rough weather.

CHAPTER VI

CONCLUSION

The Navy's vision of the future is geared toward forward presence and the projection of power within the littoral areas of the world. Primary power projection and presence missions will remain with the carrier battle group and amphibious forces. In order to sustain these forces, or Army and Air Force units, the bulk of the material will come from the sea. Desert Storm provided an excellent example of the value of prepositioned ships and the capability of the nation to sustain major combat operations for a short period. The theater commander in Desert Storm had use of facilities that are unlikely to be replicated. Examination of only one area of the globe (Africa) provides a good example of what our armed forces need to prepare for. Even if a forced entry is not necessary, the port facilities that exist will require the use of the JLOTS system. If our involvement is seriously opposed, efforts of the enemy will surely hamper our sustainment efforts.

Initial and continuing logistics support is critical to our ability to exercise combat power. The transportation of combat material to the theater of operations and our ability to move it ashore are crucial factors to the success of future

campaigns. They combine to extend our reach from the sea if used effectively. If used inefficiently they could cause operational failure.

Theater commanders must account for the use of the JLOTS system in their planning to account for delays in the initial sealift material. How long it is delayed is related to the loadout, transport, and placement/assembly of the JLOTS system. He also needs to plan for a slower throughput capacity and system disruption due to natural causes or enemy action. The commander must account for this "friction" if he is to synchronize his efforts to maintain continuity of operations.

As stated earlier, with a declining force structure each service must strive to make each asset more versatile. The operational commander must ensure every asset is utilized in the combined effort. The logistical effort is no different than any other portion of the campaign. More efficient planning will be required and every available asset should be utilized. Since sustaining the combatant force is likely to be more difficult than anytime in the recent past we should be carefully evaluating projected shortfalls and solutions within our limited structure and future budgets.

It is absolutely critical for the operational commander to carefully examine his JLOTS assets if he thinks inadequate port

facilities are possible. He must decide very early which assets he requires and prioritize their shipment into the AOR. If he fails to do this he may place his entire campaign at risk.

The Combat Logistics Force and the Helicopter Combat Support Community offer an operational commander added flexibility. The ships have the capacity to resupply the ground forces with fuel, ammunition, food, and spare parts if they were previously loaded. With their onboard helicopters these ships can deliver material to the AAA without the use of a JLOTS system, or directly to troops in the field. When follow on shipping arrives, the helicopters have the capability to assist JLOTS in establishing an increased throughput. These assets might be critical if the JLOTS system is shutdown due to weather or enemy action. Further, these assets are available, typically forward deployed, and would provide no additional force structure requirements. Joint Publication 4-0 specifically authorizes the theater commander to utilize any logistics assets in his command to conduct joint operations. The Combat Logistics Force offers him a ready round.

> **"What is not well known about Operation Overlord is that the direct military objective of Overlord was neither strategic nor tactical but <u>logistical</u>. The primary objective of the plan read:**

"to secure a lodgement on the continent from which further offensive operations can be developed".[1]

The preceding quotation may well apply to our next military operation as it did to World War II. Naval Forces used as an enabling force for future offensive operations. It also clearly portrays the importance of logistics in our ability to achieve our national interests.

NOTES

Chapter II

1. Sean O'Keefe, ". . . From the Sea: Preparing the Naval Service for the 21st Century", p.1.

2. Ibid., p.2.

3. Daniel W. Fitz-Simons, "The Role of the Marine Corps Over the Next Decade", Naval War College Review, Winter 1993, p.110.

4. O'Keefe, p.3.

5. John J. Kelley, "The Future of U.S. Amphibious Operations", Sea Power, May 1992, p.37.

6. O'Keefe, p.7.

7. Office of the Joint Chiefs of Staff, Joint Warfare of the U.S. Armed Forces, Washington, D.C., JCS Pub 1, 11 November 1991, p.30.

Chapter III

1. Restoring the Balance: U.S. Strategy and the Gulf Crisis, An Initial Report of the Washington Institute's Strategic Study Group (Washington: The Washington Institute for Near East Policy, 1991), p.52.

2. John A. O'Donovan, "Combat Service Support During Desert Shield and Desert Storm: From Kirbrit to Kuwait", Marine Corps Gazette, (October 1991), pp. 1-2.

3. John D. Morrocco, "War Will Reshape Doctrine, But Lesson Are Limited", Aviation Week and Space Technology, 22 April 1991, pp. 40-41.

NOTES (CONT'D)

Chapter III (Cont'd)

4. Analysis of MPF Operations During Operation Desert Shield, (Washington, D.C.: Warfighting Requirements Branch, Headquarters, U.S. Marine Corps, August 1991), p.10-4).

Chapter IV

1. "Flash Points Update", Jane's Defense Weekly, 2 January 1993, pp. 12-19.

2. R. K. Hope, Accessibility of Continental Sub-Saharan Africa, and Southwest Asia Ports to AFLOAT Prepositioning Force Ships, Maritime Prepositioning Force Ships, and Ready Reserve Force Ships, Naval War College, 1992, p.3.

3. Ibid., p.10.

4. Ibid., p.12.

Chapter V

1. Ibid., p.15.

2. Ibid., pp. 17-19.

3. Ibid., p.19.

4. JLOTS II Test Directorate, Analysis and Evaluation Joint Logistics Over-the-Shore II JLOTS II Throughput Test, (Norfolk, VA: 1985), p.6-3.

5. The Joint Chiefs of Staff, Joint Pub 4-01.6 Joint Tactics Techniques and Procedures for Joint Logistics Over-the-Shore, (Washington: 1991).

6. JLOTS II Test Directorate, p.6-15.

NOTES (CONT'D)

Chapter VI

1. "Selected Extracts on Logistics", Operations Department, Naval War College, 1992, p.4.

BIBLIOGRAPHY

Brown, David B., "Call in the Marines", Amphibious Warfare Review, Summer 1991.

Creveld, Martin V., Supplying War, Logistics From Wallenstein to Patton, Cambridge: Cambridge University Press, 1977.

Fitz-Simons, Daniel W., "The Role of the Marine Corps Over the Next Decade", Naval War College Review, Winter 1993.

"Flash Points Update", Jane's Defense Weekly, 2 January 1993.

"Future Combat Logistics Force: ' posal for Least Cost 21st Century CLF", UNREP Newslette. No.6, Winter 91/92.

Hope, R. K., Accessibility of Continental Sub-Saharan Africa, and Southwest Asia Ports to AFLOAT Prepositioning Force Ships, Maritime Prepositioning Force Ships, and Ready Reserve Force Ships, Naval War College, 1992.

Howe, Robert H., "Tomorrow's Gator Navy", Proceedings, December 1988.

JLOTS II Test Directorate, Analysis and Evaluation Joint Logistics Over-the-Shore II JLOTS II Throughput Test, Norfolk, VA: 1985.

Kelley, John J., "The Future of U.S. Amphibious Operations", Sea Power, May 1992.

Keys, J. E., ed., Selected Extracts on Logistics and Sustainability, Newport: Naval War College, 1992.

Miller, Paul David, "Doing the Job With a Smaller Fleet", Proceedings, April 1992.

Morrocco, John D., "War Will Reshape Doctrine, But Lesson Are Limited", Aviation Week and Space Technology, 22 April 1991.

BIBLIOGRAPHY (CONT'D)

O'Donovan, John A., "Combat Service Support During Desert Shield and Desert Storm: From Kirbrit to Kuwait", Marine Corps Gazette, October 1991.

Office of the Joint Chiefs of Staff, Doctrine for Logistic Support of Joint Operations, JCS Pub 4-0 (TEST), Washington: 1990.

Office of the Joint Chiefs of Staff, A Doctrinal Statement of Selected Joint Operational Concepts, Washington: 1992.

Office of the Joint Chiefs of Staff, Joint Doctrine for Amphibious Operation, JCS Pub 3-02, Washington: 1986.

Office of the Joint Chiefs of Staff, Joint Tactics, Techniques and Procedures for Joint Logistics Over-the-Shore, JCS Pub 4-01.6, Washington: 1991.

Office of the Joint Chiefs of Staff, Joint Warfare of the U.S. Armed Forces, Washington, D.C., JCS Pub 1, 11 November 1991.

O'Keefe, Sean, ". . . From the Sea: Preparing the Naval Service for the 21st Century", 1992.

Phillips-Beaudan, Eric, "At Sea With the New World Order", Defense and Diplomacy, October/November 1991.

U.S. Marine Corps, Campaigning, FM FM 1-1, Washigton: 25 January 1990.

U.S. Marine Corps, Analysis of MPF Operations During Operation Desert Shield, Washington, 1991.

U.S. Navy Department, Strategic Sealift Program Information, Washington: 1985.

Washington Institute for Near East Policy, Restoring the Balance: U.S. Strategy and the Gulf Crisis, An Initial Report of the Washington Institute's Strategic Study Group, Washington: 1991.

BIBLIOGRAPHY (CONT'D)

The White House, National Security Strategy of the United States, Washington: U.S. Government Printing Office, 1993.